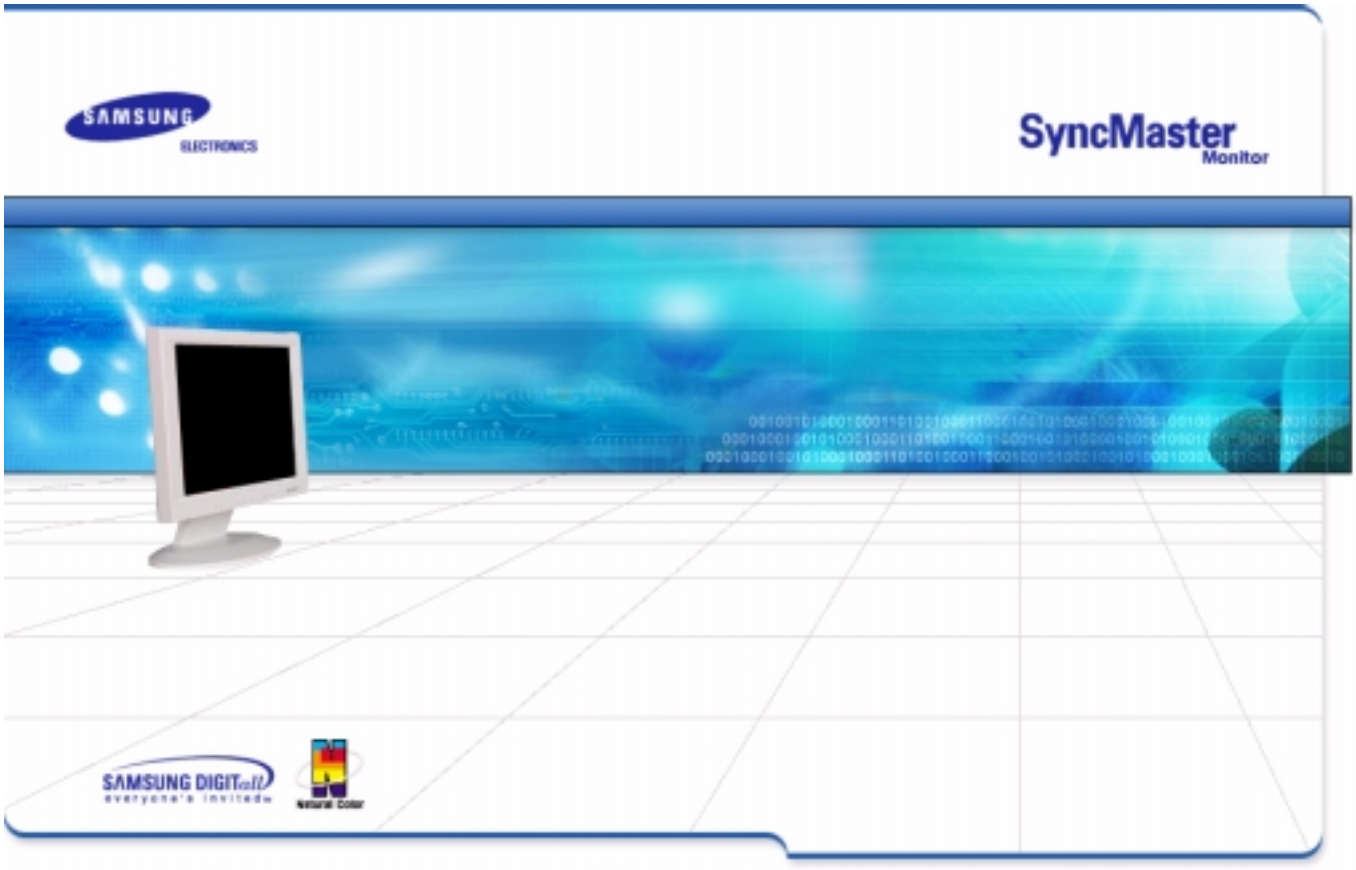
SyncMaster 213T



Index

- Main Page
- Safety Instructions
  - Notational
  - Power
  - Installation
  - Cleaning
  - Other
- Introduction
  - Unpacking
  - Front
  - Rear
- Setup
  - Connecting Your Monitor
  - Installing the Monitor Driver
    - — Automatic
    - — Manual
  - Installing VESA compliant mounting
- On-Screen Display
- Troubleshooting
  - Check List
  - Q & A
  - Self-Test Feature Check
- Specifications
  - General Specifications
  - PowerSaver
  - Preset Display Modes
- Information
  - Service
  - Terms
  - Regulatory
  - Natural Color
  - For Better Display
  - Authority

Safety Instructions

Notational

Please read the following safety instructions as they are designed to prevent damage to property and harm to the user.

Warning/Caution

Failure to follow directions noted by this symbol could result in bodily harm or damage to equipment.

Notation Conventions

Prohibited

Important to read and understand at all times

Do not disassemble

Disconnect the plug from the outlet

Do not touch

Grounding to prevent an electric shock

Safety Instructions

Power

When not used for extended periods of time, set your PC to DPMS. If using a screen saver, set it to the active screen mode.

- **Do not use a damaged or loose plug.**
  - This may cause an electric shock or fire.

- **Do not pull the plug out by the wire nor touch the plug with wet hands.**
  - This may cause an electric shock or fire.

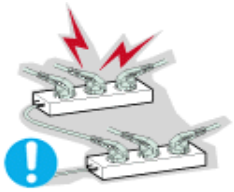
- **Use only a properly grounded plug and recepticle.**
  - An improper ground may cause electric shock or equipment damage

- **Do not excessively bend the plug and wire nor place heavy objects upon them, which could cause damage.**
  - Failure to do so may cause an electric shock or fire.

Safety Instructions

Power

- **Disconnect the plug from the outlet during storms or lightening or if it is not used for a long period of time.**
  - Failure to do so may cause an electric shock or fire.



- **Do not connect too many extension cords or plugs to an outlet.**
  - This may cause a fire.

Safety Instructions

Installation

- **Do not cover the vents on the monitor cabinet.**
  - Bad ventilation may cause a breakdown or fire.

- **Put your monitor in a location with low humidity and a minimum of dust.**
  - An electric shock or fire could result inside the monitor.

- **Do not drop the monitor when moving it.**
  - This may cause damage to the product or human body.

- **Place the monitor on a flat and stable surface.**
  - The monitor can cause injury by falling.

- **Set down the monitor carefully.**
  - It could be damaged or broken.

Safety Instructions

Installation

- **Do not place the monitor face down.**
  - The TFT-LCD surface may be damaged.

Safety Instructions

Clean

When cleaning the monitor case or the surface of the TFT-LCD, wipe with a slightly moistened, soft fabric.

- **Do not spray detergent directly on the monitor.**

- **Use the recommended detergent with a smooth cloth.**

- **If the connector between the plug and the pin is dusty or dirty, clean it properly with a dry cloth.**
  - A dirty connector can cause an electric shock or fire

- **Do not set a glass of water, chemicals or any small metal objects on the monitor.**
  - This may cause damage, electric shock or a fire.
  - If a foreign substance gets into the monitor, disconnect the plug and then contact a service center.

Safety Instructions

Other

- **Do not remove cover(or back). No user serviceable parts inside.**
  - This may cause an electric shock or a fire.
  - Refer servicing to qualified service personnel.

- **If your monitor does not operate normally - in particular, if there are any unusual sounds or smells coming from it - unplug it immediately and contact an authorized dealer or service.**
  - This may cause an electric shock or a fire.

- **Do not place any heavy objects on the monitor.**
  - This may cause an electric shock or a fire.

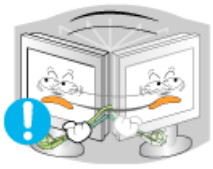
- **For each hour of looking at the monitor, you should let your eyes rest for 5 minutes.**
  - This will reduce eye fatigue.

- **Do not use or store inflammable substances near the monitor.**
  - This may cause an explosion or fire.

Safety Instructions

Other

- **Do not try to move the monitor by pulling on the wire or the signal cable.**
  - This may cause a breakdown, electric shock or a fire due to damage to the cable.



- **Do not move the monitor right or left by pulling only the wire or the signal cable.**
  - This may cause a breakdown, electric shock or a fire due to damage to the cable.

- **Never insert anything metallic into the monitor openings.**
  - This may cause an electric shock, fire or injury.

If you view a fixed screen for an extended period of time, residual image or blurriness may appear.

- Change the mode to energy save or set a screensaver to moving picture when you need to be away from the monitor for an extended period of time.

Introduction

Unparking

Please make sure the following items are included with your monitor. If any items are missing, contact your dealer.

D-Sub Cable

DVI Cable(Option)

Power Cord

Monitor and Stand

Quick Setup Guide

Warranty Card
(Not available in all locations)

User's Guide and Driver Installation CD

PIVOT Installation CD
(Not available in all locations)

Introduction

Front

1. Auto button	Use this button to auto adjustment direct access.
2. Exit button **Source button**	Use this button to Exit the active menu or the OSD. When you push the Source button while the OSD is off, the input source (analog/digital) is alternated. (When you push the Source button to change the input source or turn on the monitor, a message appears in the center of the screen displaying the current input source -- analog or digital.) **Note**:If you select the Digital mode, you must connect your monitor to the graphic card with a digital port using the DVI cable.
3. Adjust buttons	These buttons allow you to highlight and adjust items in the menu.
4. Menu button	Use this button to open the OSD and activate a highlighted menu item.
5. Power button	Use this button to turn the monitor on and off.(When the power is turned on, a message appears in the center of the screen displaying the current mode -- analog or digital input signal.)
6. Power indicator	This light glows green during normal operation, and blinks green once as the monitor saves your adjustments.

Note: See PowerSaver described in the manual for further information regarding power saving functions. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

Introduction

Rear

(The configuration at the back of the monitor may vary from product to product.)

1. Power port	Connect the power cord for your monitor to the power port on the back of the monitor.
2. DVI port	Connect the DVI Cable to the DVI Port on the back of your Monitor.
3. D-Sub port	Connect the signal cable to the 15-pin, D-sub connector on the back of your monitor.

Stand Height Adjustment

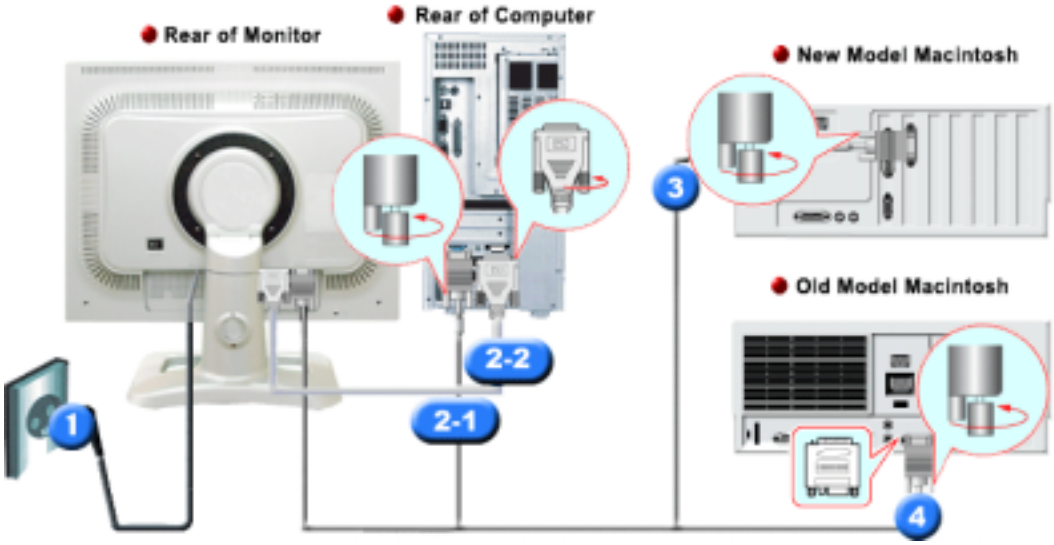
1. Press the top side of the stand and then push the button at the rear bottom of the stand.

2. You can adjust the stand height using this button.

Note: See Connecting Your Monitor for further information regarding cable connections.

Setup

Connecting Your Monitor



1. Connect the power cord for your monitor to the power port on the back of the monitor. Plug the power cord for the monitor into a nearby outlet.

2-1. Using the D-sub (Analogue) connector on the video card.
Connect the signal cable to the 15-pin, D-sub connector on the back of your monitor.

2-2. Using the DVI (Digital) connector on the video card.
Connect the DVI Cable to the DVI Port on the back of your Monitor.

3. Connected to a Macintosh.
Connect the monitor to the Macintosh computer using the D-SUB connection cable.

4. In the case of an old model Macintosh, you need to connect the monitor using a special Mac adaptor.

5. Turn on your computer and monitor. If your monitor displays an image, installation is complete.

- You may get a blank screen depending on the type of video card you are using, if you connect simultaneously both the D-sub and DVI cables to one computer.
- If you connect properly your monitor using the DVI connector but get a blank or fuzzy screen, check to see if the monitor status is set to analogue. Press Source button to have the monitor double-check the input signal source.

Setup

Automatic | Manual

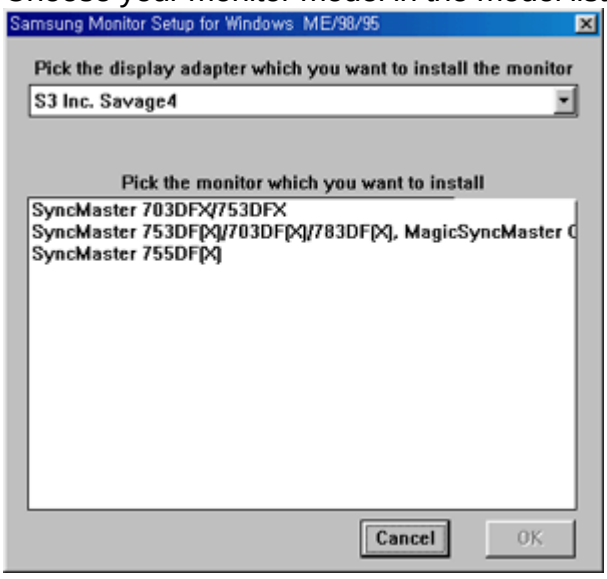
When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions as appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown here.

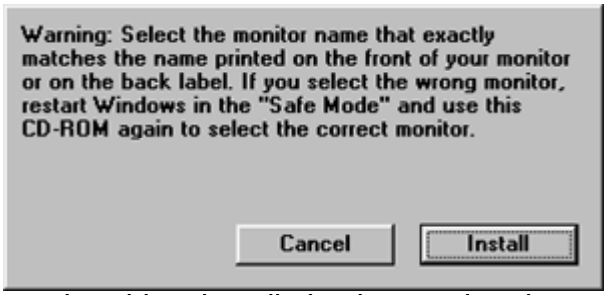
Internet web site : http://www.samsung-monitor.com/ (Worldwide)
http://www.samsungusa.com/monitor/ (USA)
http://www.sec.co.kr/monitor/ (Korea)
http://www.samsungmonitor.com.cn/ (China)

Windows ME

1. Insert CD into the CD-ROM drive.
2. Click **"Windows ME Driver"**.
3. Choose your monitor model in the model list, then click the **"OK"** button.


Samsung Monitor Setup for Windows ME/98/95
Pick the display adapter which you want to install the monitor
S3 Inc. Savage4
Pick the monitor which you want to install
SyncMaster 703DFX/753DFX
SyncMaster 753DF[X]/703DF[X]/783DF[X], MagicSyncMaster
SyncMaster 755DF[X]
Cancel
OK

4. Click the "**Install**" button in the "**Warning**" window.

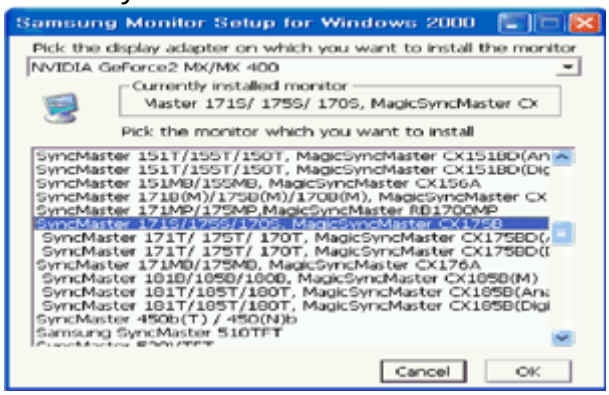

Warning: Select the monitor name that exactly matches the name printed on the front of your monitor or on the back label. If you select the wrong monitor, restart Windows in the "Safe Mode" and use this CD-ROM again to select the correct monitor.
Cancel
Install

5. Monitor driver installation is completed.

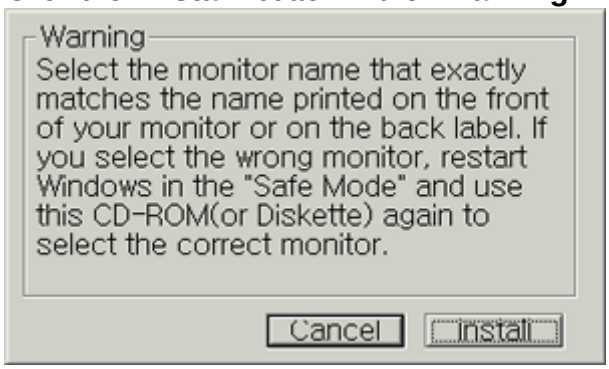
Setup

Windows XP/2000

1. Insert CD into the CD-ROM drive.
2. Click **"Windows XP/2000 Driver"**.
3. Choose your monitor model in the model list, then click the **"OK"** button.


Samsung Monitor Setup for Windows 2000
Pick the display adapter on which you want to install the monitor
NVIDIA GeForce2 MX/MX 400
Currently installed monitor
Pick the monitor which you want to install
Cancel
OK

4. Click the "**Install**" button in the "**Warning**" window.


Warning
Select the monitor name that exactly matches the name printed on the front of your monitor or on the back label. If you select the wrong monitor, restart Windows in the "Safe Mode" and use this CD-ROM(or Diskette) again to select the correct monitor.
Cancel
Install

5. If you can see following **"Message"** window, then click the **"Continue Anyway"** button. Then click **"OK"** button.

Hardware Installation
The software you are installing for this hardware:
SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX175S
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

This monitor driver is under certifying MS logo,and this installation don't damage your system.The certified driver will be posted on Samsung Monitor Homepage http://www.samsung-monitor.com/

6. Monitor driver installation is completed.

Setup

Automatic | Manual

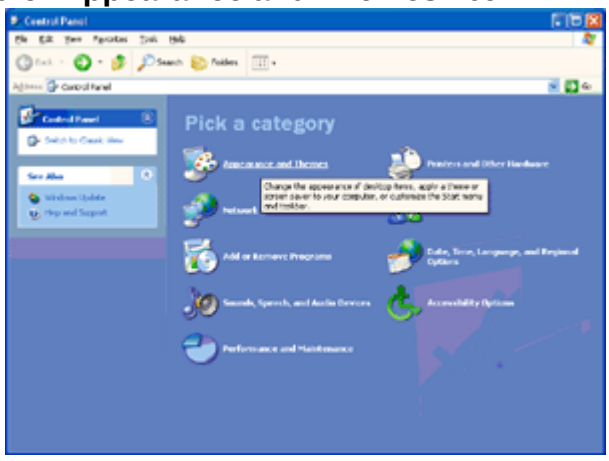
When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions as appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown here.

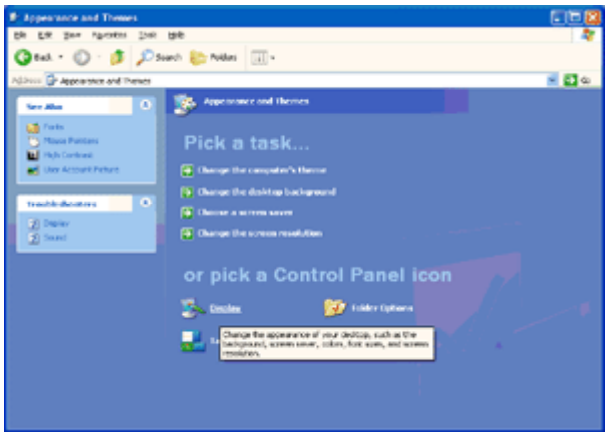
Internet web site : http://www.samsung-monitor.com/ (Worldwide)
http://www.samsungusa.com/monitor/ (USA)
http://www.sec.co.kr/monitor/ (Korea)
http://www.samsungmonitor.com.cn/ (China)

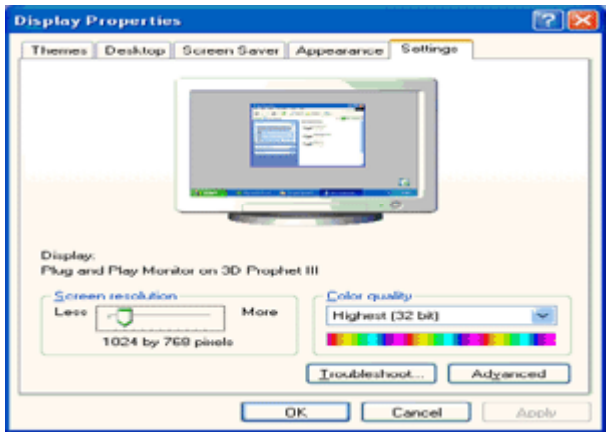
Microsoft® Windows® XP Operating System

1. Insert CD into the CD-ROM driver.
2. Click "**Start**" —> "**Control Panel**" then click the "**Appearance and Themes**" Icon.



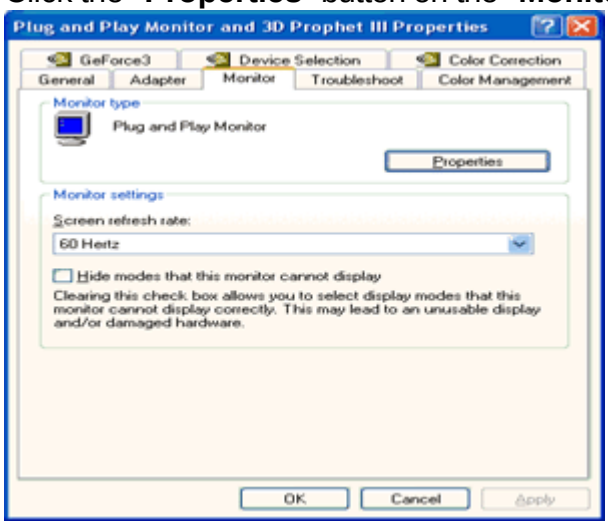
3. Click "**Display**" icon and choose the "**Settings**" tab then click "**Advanced..**".

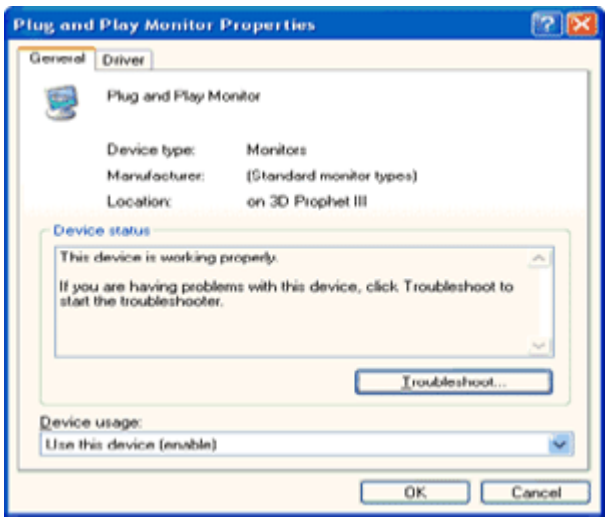




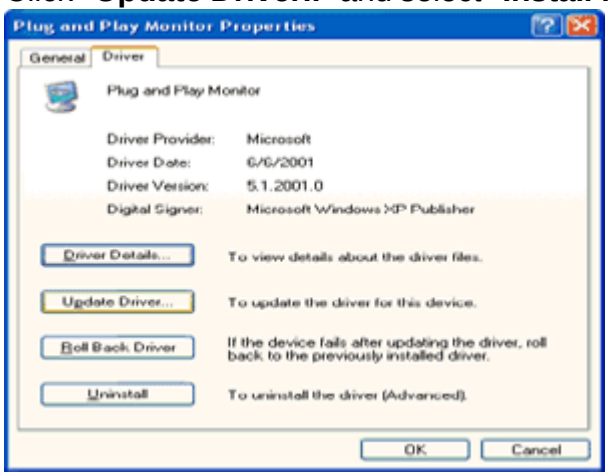
Setup

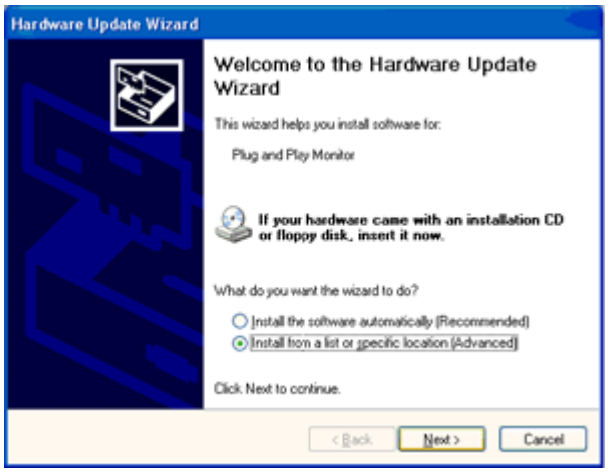
4. Click the "**Properties**" button on the "**Monitor**" tab and select "**Driver**" tab.



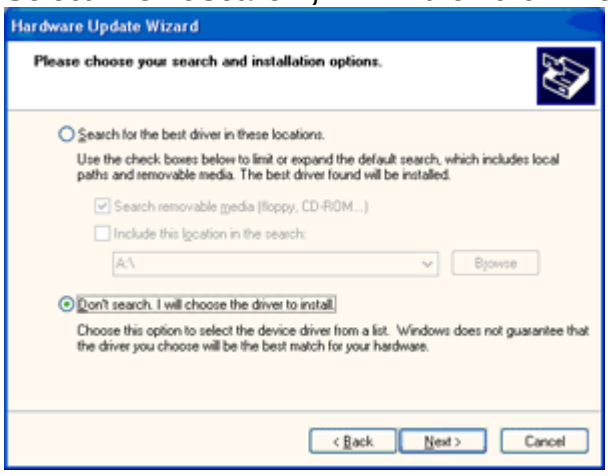


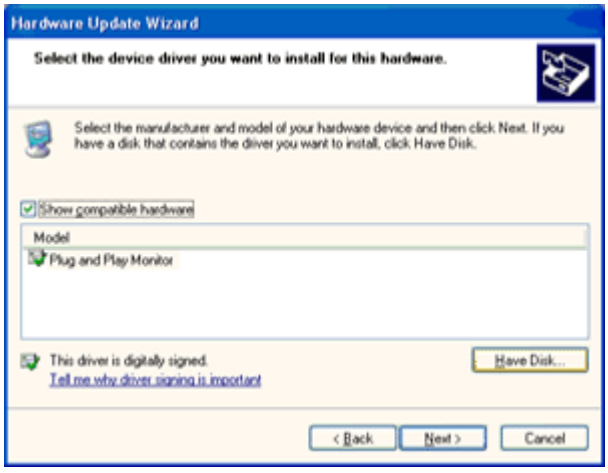
5. Click "**Update Driver..**" and select "**Install from a list or..**" then click "**Next**" button.




Hardware Update Wizard
Welcome to the Hardware Update Wizard
This wizard helps you install software for:
Plug and Play Monitor
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

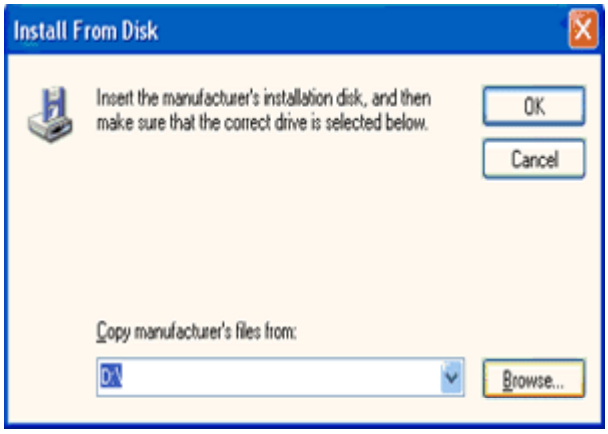
6. Select "**Don't search ,I will..**" then click "**Next**" and then click "**Have disk**".

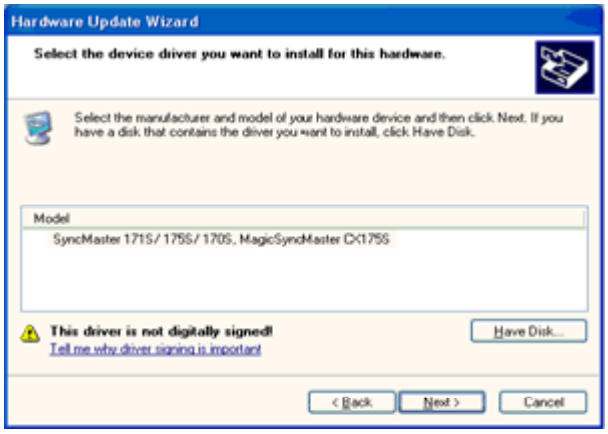

Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
A:\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Hardware Update Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Show compatible hardware
Model
Plug and Play Monitor
This driver is digitally signed.
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

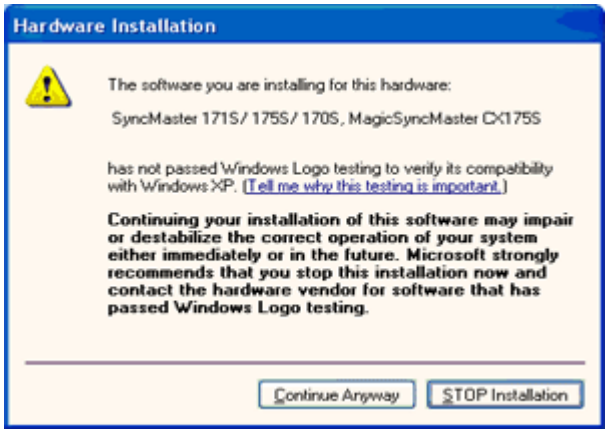
7. Click the "**Browse**" button then choose A:(D:\Driver) and choose your monitor model in the model list and click the "**Next**" button.

Setup



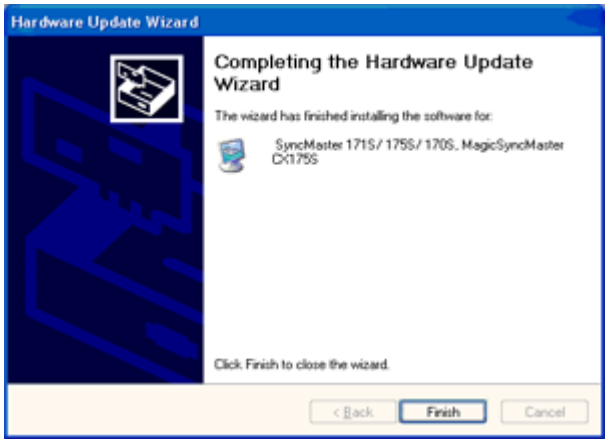

Hardware Update Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Model
SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX175S
This driver is not digitally signed!
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

8. If you can see following "**Message**" window, then click the "**Continue Anyway**" button. Then click "**OK**" button.


Hardware Installation
The software you are installing for this hardware:
SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX175S
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

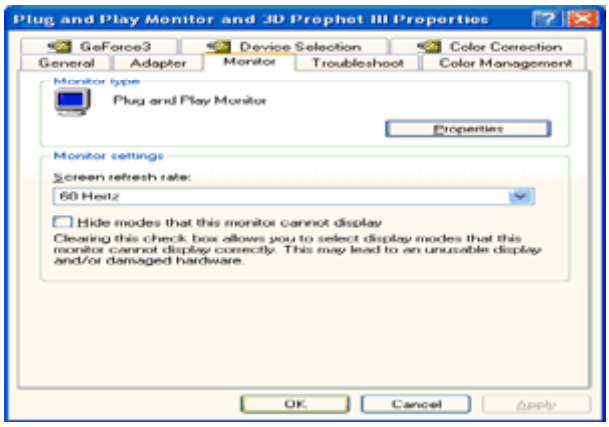
This monitor driver is under certifying MS logo,and this installation don't damage your system.The certified driver will be posted on Samsung Monitor Homepage
http://www.samsung-monitor.com/

9. Click the "**Close**" button then click "**OK**" button continually.


Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX175S
Click Finish to close the wizard.
< Back
Finish
Cancel

Setup

SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX...
General
Driver
SyncMaster 171S/ 175S/ 170S, MagicSyncMaster CX175S
Driver Provider: Samsung
Driver Date: 9/11/2001
Driver Version: 1.0.0.0
Digital Signer: Not digitally signed
Driver Details...
To view details about the driver files.
Update Driver...
To update the driver for this device.
Roll Back Driver
If the device fails after updating the driver, roll back to the previously installed driver.
Uninstall
To uninstall the driver (Advanced).
Close
Cancel



10. Monitor driver installation is completed.

Microsoft® Windows® 2000 Operating System

When you can see "Digital Signature Not Found" on your monitor, follow these steps.

1. Choose "**OK**" button on the "**Insert disk**" window.
2. Click the "**Browse**" button on the "**File Needed**" window.
3. Choose A:(D:\Driver) then click the "Open" button and then click "**OK**" button.

How to install

1. Click "**Start**" , "**Setting**" , "**Control Panel**".
2. Double click the "**Display**" Icon.
3. Choose the "**Settings**" tab and then click "**Advanced..**".
4. Choose "**Monitor**".
   - Case1: If the "Properties" button is inactive, it means your monitor is properly configured. Please stop installation
   - Case2: If the "Properties" button is active, click the "Properties" button then follow next steps continually.
5. Click "**Driver**" and then click on "**Update Driver..**" then click on the "Next" button.
6. Choose "**Display a list of the known drivers for this device so that I can choose a specific driver**" then click "**Next**" and then click "**Have disk**".
7. Click the "**Browse**" button then choose A:(D:\Driver).
8. Click the "**Open**" button, then click "**OK**" button.
9. Choose your monitor model and click the "**Next**" button then click "**Next**" button.
10. Click the "**Finish**" button then the "**Close**" button.

If you can see the "**Digital Signature Not Found**" window then click the "**Yes**"button. And click the "**Finish**" button then the "**Close**" button.

Setup

Microsoft® Windows® Millennium Operating System

1. Click "**Start**" , "**Setting**" , "**Control Panel**".
2. Double click "**Display**" icon.
3. Select the "**Settings**" tab and click "**Advanced Properties**" button.
4. Select the "**Monitor**" tab.
5. Click the "**Change**" button in the "**Monitor Type**" area.
6. Choose "**Specify the location of the driver**".
7. Choose "**Display a list of all the driver in a specific location..**" then click "**Next**" button.
8. Click the "**Have Disk**" button
9. Specify A:\(D:\driver) then click "**OK**" button.
10. Select "**Show all devices**" and choose the monitor that corresponds to the one you connected to your computer and click "**OK**".
11. Continue choosing "**Close**" button and "**OK**" button until you close the Display Properties dialogue box.
    (You can get some other screen for warning message or others, then click the appreciate option for your monitor.)

Microsoft® Windows® NT Operating System

1. Click **Start**, **Settings**, **Control Panel**, and then double-click **Display** icon.
2. In Display Registration Information window, click Settings Tab and then click **All Display Modes**.
3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency) and then click **OK**.
4. Click **Apply** button if you see the screen working normally after clicking Test. If the screen is not normal, change to a different mode (lower mode of resolution, colors or frequency).

Linux Operating System

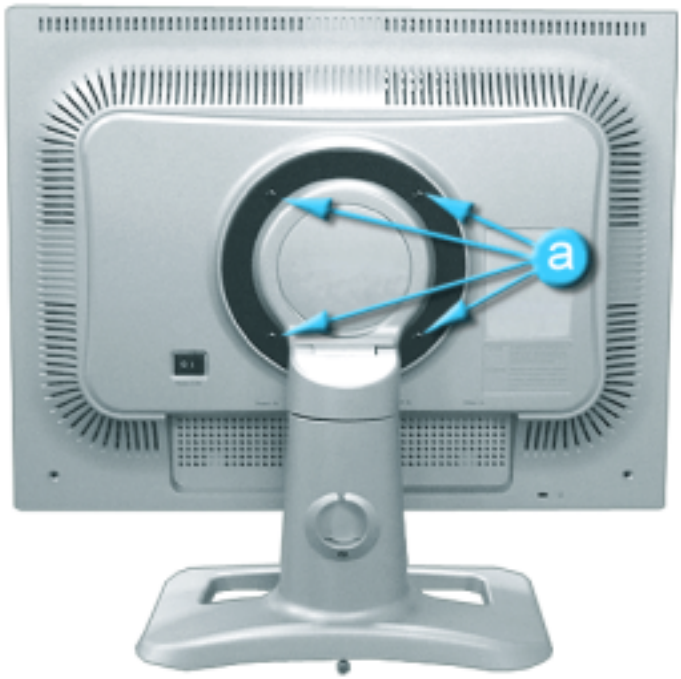
To execute X-Window, you need to make the X86Config file, which is a type of system setting file.

1. Press Enter at the first and the second screen after executing the X86Config file.
2. The third screen is for **setting your mouse**.
3. Set a mouse for your computer.
4. The next screen is for **selecting a keyboard**.
5. Set a Keyboard for your computer.
6. The next screen is for **setting your monitor**.
7. First of all, set a **horizontal frequency** for your monitor. (You can enter the frequency directly.)
8. Set a **vertical frequency** for your monitor. (You can enter the frequency directly.)
9. Enter the **model name of your monitor**. This information will not affect the actual execution of X-Window.
10. You have **finished** setting up your monitor.
    Execute X-Window after setting other requested hardware.

Setup

Installing VESA compliant mounting

Removing the base



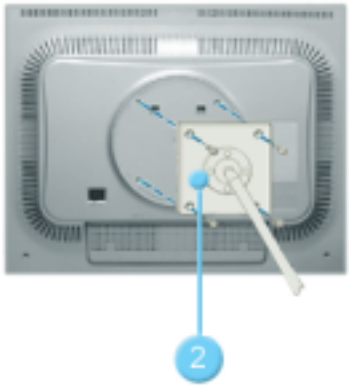
1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Remove the four screws and then remove the Stand from the LCD monitor.

Setup

Installing VESA compliant mounting

Attaching a base

NOTE: This monitor accepts a 100mm x 100mm VESA-compliant mounting interface pad.



1. Rear cover mounting pad
2. Mounting interface pad

Align the Mounting Interface Pad with the holes in the Rear Cover Mounting Pad and secure it with the four screws that came with the arm-type base, wall mount hanger or other base.

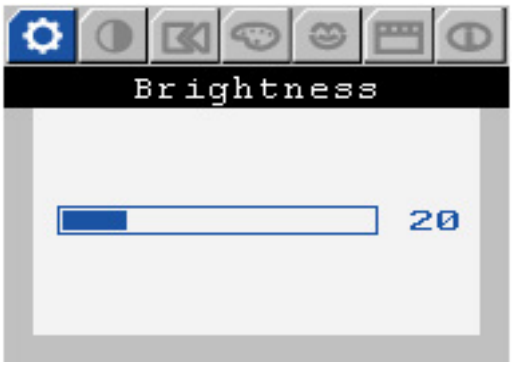
On Screen Display (OSD)

Adjusting the OSD settings

1. Activate the OSD menu by pushing the **Menu** button.
2. Make a selection using [**-**] or [**+**] button and then push the **Menu** button.
3. Adjust the OSD settings using [**-**] or [**+**] button.

Brightness

Menu **How to adjust**



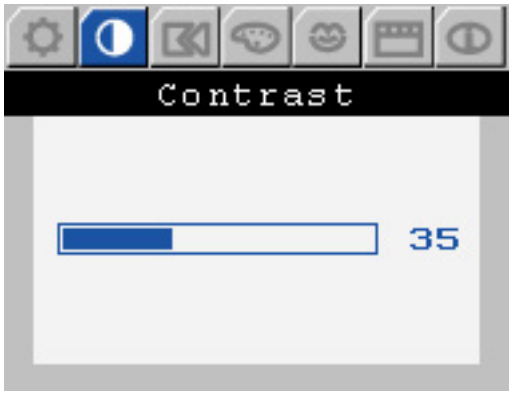
Brightness

- Adjust Brightness.

1. Push the **Menu** button.
2. Push the **Menu** button to open the **Brightness** adjustment screen.
3. Use the [**+**] button to increase the brightness or [**-**] button to decrease the brightness.

Contrast

Menu **How to adjust**



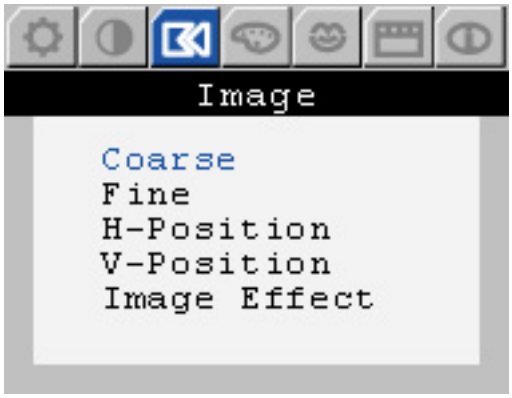
Contrast

- Adjust Contrast.

1. Push the **Menu** button.
2. Push the [**-**] button or [**+**] button until the **Contrast** screen is displayed.
3. Push the **Menu** button to open the **Contrast** adjustment screen.
4. Use the [**+**] button to increase the contrast or [**-**] button to decrease the contrast.

Image

Menu **How to adjust**



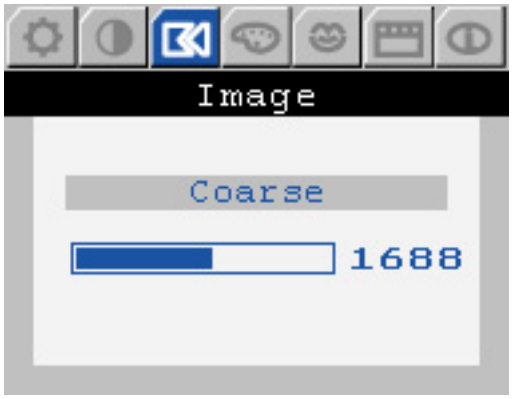
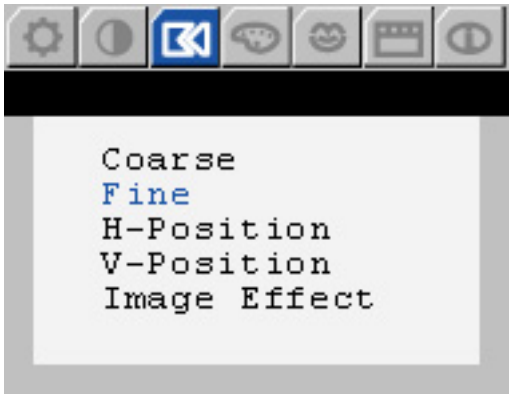


Image [Coarse]

- Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the Horizontal Control menu.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Image** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Coarse**.
5. Push the **Menu** button to open the **Coarse** adjustment screen.
6. Use the [-] or [+] buttons to adjust the coarse.

Menu **How to adjust**



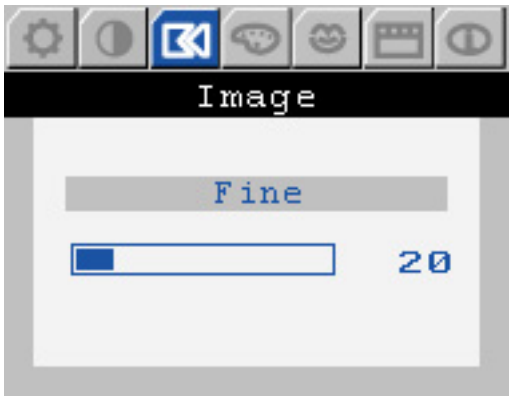
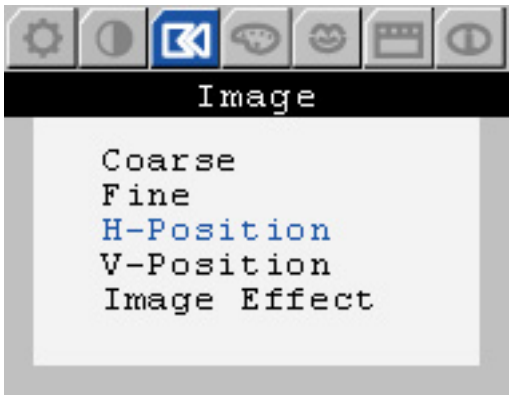


Image [Fine]

- Removes noise such as horizontal stripes. If the noise persists even after Fine tuning, repeat it after adjusting the frequency (clock speed).

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Image** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Fine**.
5. Push the **Menu** button to open the **Fine** adjustment screen.
6. Use the [-] or [+] buttons to adjust the fine.

Menu **How to adjust**



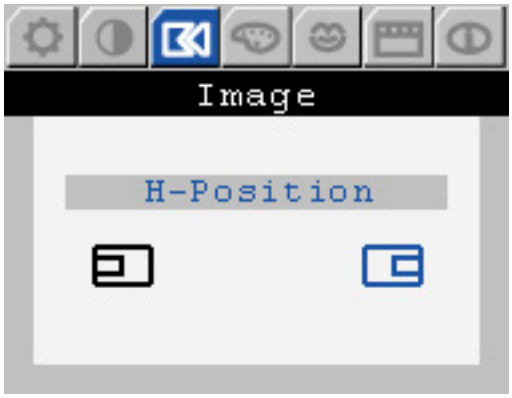
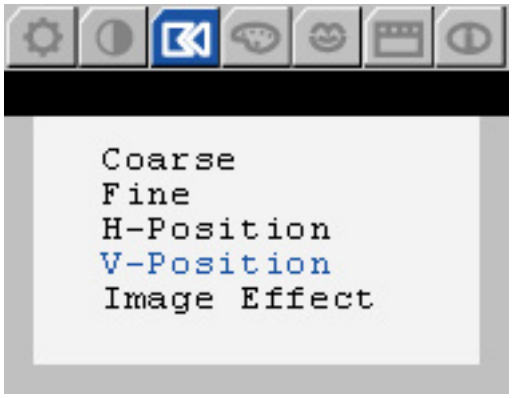


Image [H-Position]

- Follow these instructions to change the horizontal position of the monitor's entire display.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Image** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **H-Position**.
5. Push the **Menu** button to open the **H-Position** adjustment screen.
6. Use the [-] or [+] buttons to change the horizontal position of the monitor's viewing area..

Menu **How to adjust**



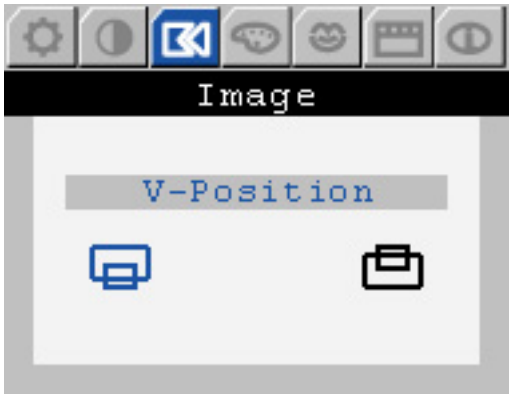


Image [V-Position]

- Follow these instructions to change the vertical position of the monitor's entire display.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Image** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **V-Position**.
5. Push the **Menu** button to open the **V-Position** adjustment screen.
6. Use the [-] or [+] buttons to change the vertical position of the monitor's viewing area..

Menu **How to adjust**

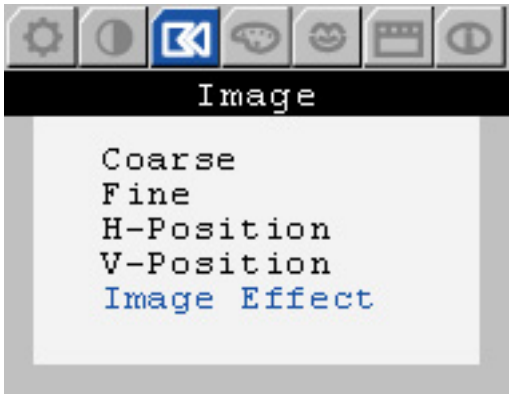


Image [Image Effect]

- Image being displayed can be made Sharpen, Medium or Soften.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Image** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Image Effect**.
5. Push the **Menu** button to open the **Image Effect** selection screen.
6. Use the [-] or [+] buttons to select Sharpen or Medium or Soften.

Color Control

Menu **How to adjust**

Color Control [Bluish]

- Bluish white.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Color Control** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Bluish**.
5. Push the **Menu** button to adjust Bluish white**.**

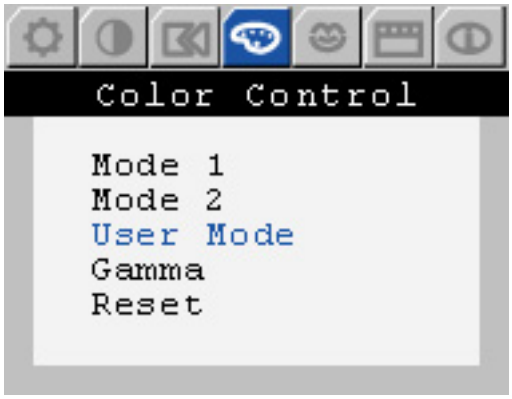
Menu **How to adjust**

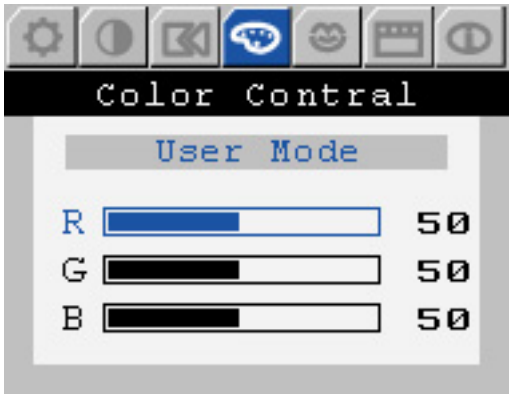
Color Control [Reddish]

- Reddish white.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Color Control** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Reddish**.
5. Push the **Menu** button to adjust Reddish white**.**

Menu **How to adjust**



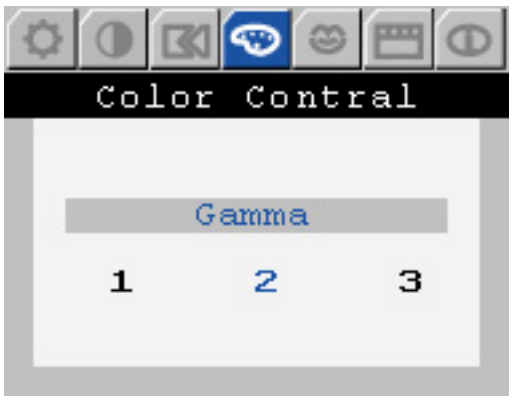


Color Control [User Mode]

- Follow these steps to adjust individual R,G,B color control.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Color Control** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **User Mode**.
5. Push the **Menu** button to open the **User Mode** adjustment screen.
6. Use the [-] or [+] button to select **R**(ed), **G**(reen) or **B**(lue) and Push the **Menu** button.
7. Press the [-] or [+] button to adjust the color setting..

Menu **How to adjust**

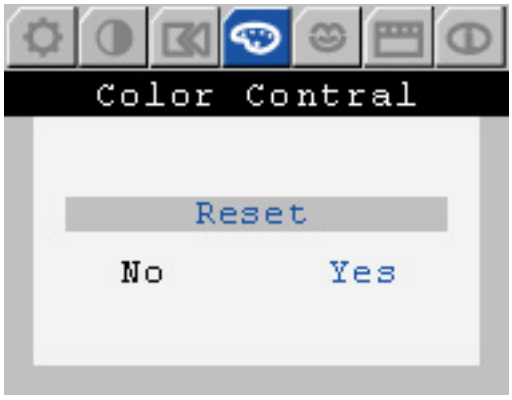


Color Control [Gamma]

- Adjust the gamma value.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **Color Control** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Gamma**.
5. Push the **Menu** button to open the **Gamma** selection screen.
6. Use the [-] or [+] button to select **1, 2, 3** to change the gamma value.

Menu **How to adjust**



Color Control [Reset]

- Color parameters are replaced with the factory default values.

1. Push the **Menu** button.

2. Push the [-] button or [+] button until the **Color Control** screen is displayed.

3. Push the **Menu** button to open the sub-menu selection screen.

4. Push the [-] button or [+] button to select the **Reset**.

5. Push the **Menu** button to open the **Reset** screen.

6. Push the [-] button or [+] button to select **Yes**.
   If you don't want to reset the monitor, use the [-] button or [+] button to select **No**.

Language

Menu **How to adjust**

Language

- Follow these steps to change the language used in the menu.
You can choose one of seven languages.
(English, German, Spanish, French, Italian, Swedish, Russian)

Note : The language chosen affects only the language of the OSD. It has no effect on any software running on the computer.

1. Push the **Menu** button.

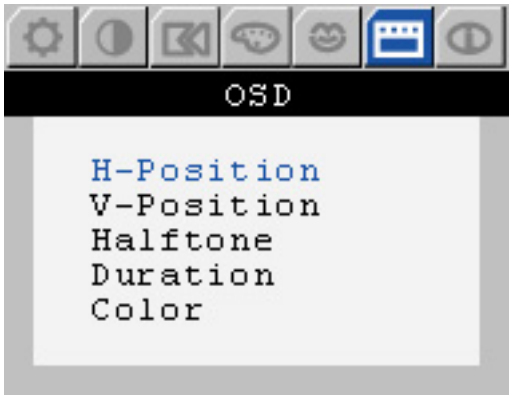
2. Push the [**-**] button or [**+**] button until the **Language** screen is displayed.

3. Push the **Menu** button to open the **Language** selection screen.

4. Use the [**-**] button or [**+**] button to select the language you would like to use.

OSD

Menu **How to adjust**

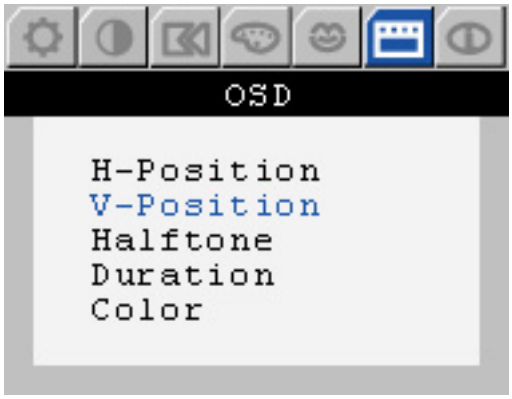


OSD [H-Position]

- You can change the horizontal position where the OSD menu appears on your monitor.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **OSD** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **H-Position**.
5. Push the **Menu** button to open the **H-Position** adjustment screen.
6. Use the [-] or [+] button to change the horizontal position of the OSD menu.

Menu **How to adjust**

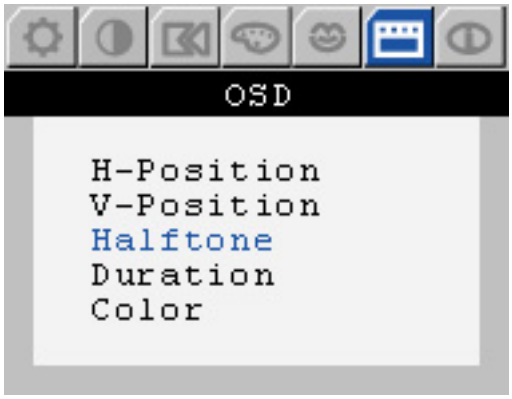


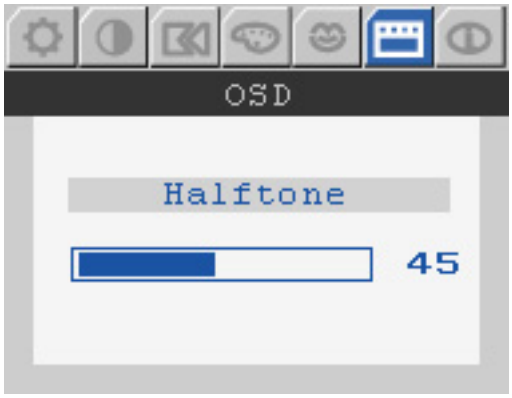
OSD [V-Position]

- You can change the vertical position where the OSD menu appears on your monitor.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **OSD** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **V-Position**.
5. Push the **Menu** button to open the **V-Position** adjustment screen.
6. Use the [-] or [+] button to change the vertical position of the OSD menu.

Menu **How to adjust**



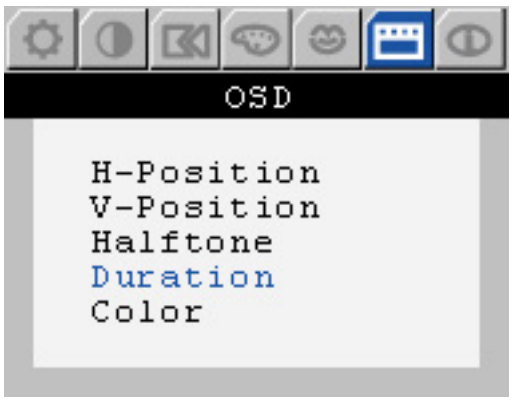


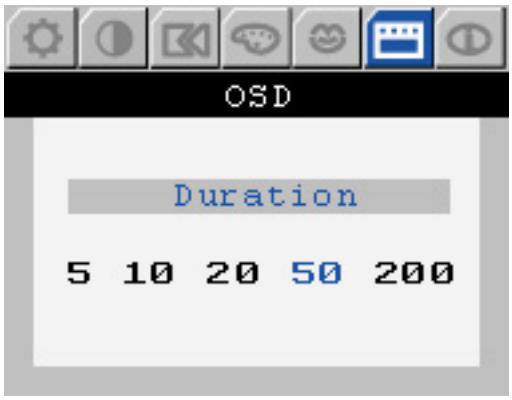
OSD [Halftone]

- Change the opaqueness of the background of the OSD.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **OSD** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Halftone**.
5. Push the **Menu** button to open the **Halftone** adjustment screen.
6. Use the [-] or [+] button to adjust the opaqueness of the background of the OSD menu.

Menu **How to adjust**



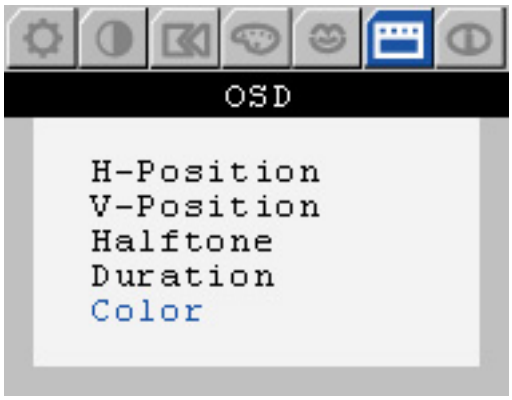


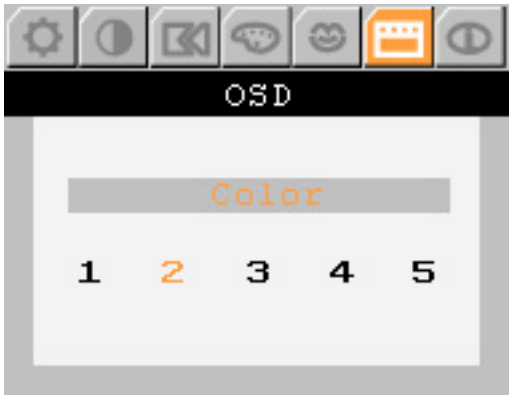
OSD [Duration]

- The menu will automatically turn off if no adjustments are made for a certain time period.

1. Push the **Menu** button.
2. Push the [-] button or [+] button until the **OSD** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [-] button or [+] button to select the **Duration**.
5. Push the **Menu** button to open the **Duration** adjustment screen.
6. Use the [-] or [+] button to select the duration of the OSD menu.

Menu **How to adjust**





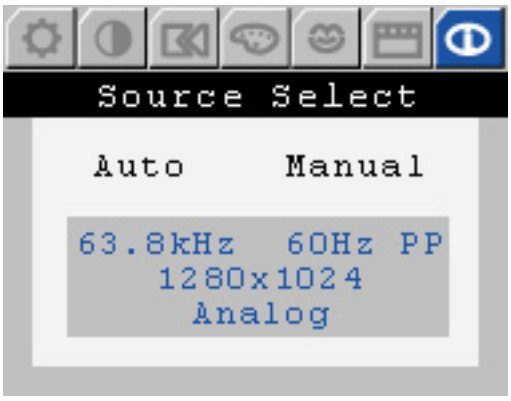
OSD [Color]

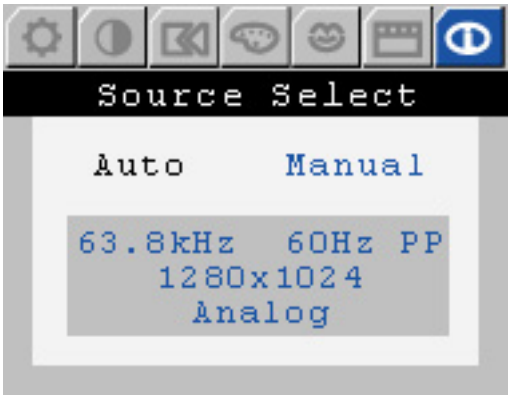
- You can change the color of the OSD menu.

1. Push the **Menu** button.
2. Push the [**-**] button or [**+**] button until the **OSD** screen is displayed.
3. Push the **Menu** button to open the sub-menu selection screen.
4. Push the [**-**] button or [**+**] button to select the **Color**.
5. Push the **Menu** button to open the **Color** selection screen.
6. Use the [**-**] or [**+**] button to change the color of the OSD menu.

Source Select

Menu **How to adjust**





Source Select

- Select **Auto Source Select** for the monitor to automatically select the signal source.
  Select Manual **Source Select** to manually select the signal source using the **Source** button.

1. Push the **Menu** button.

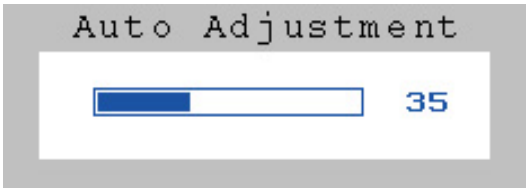
2. Push the [**-**] button or [**+**] button until the **Source Select** screen is displayed.

3. Push the **Menu** button to open the **Source Select** screen.

4. Push the [**-**] button or [**+**] button to select the **Auto** or **Manual.**.

Auto Adjustment

Menu **How to adjust**



Auto Adjustment

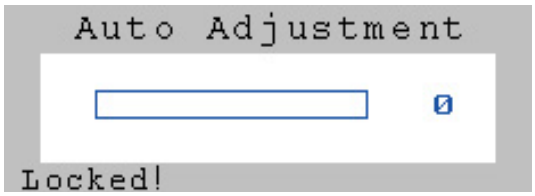
- Auto adjustment allows the monitor to self-adjust to the incoming video signal. The values of fine, coarse and position are adjusted automatically.

1. Push the **Auto** button.

To make the automatic adjustment function sharper, execute the 'AUTO' function while the AUTO PATTERN is on.

OSD Lock / Unlock

Menu **How to adjust**



OSD Lock/Unlock

1. Push and hold in the Menu button for 5 seconds or more to Lock the OSD.

2. Push and hold in the button for 5 seconds or more to Unlock the OSD.

* You can adjust the **Brightness** and **Contrast** settings even after you locked the OSD menu.

Troubleshooting

Check List

Note Before calling for service, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the warranty card, the phone number on the Information section or contact your dealer.

Symptom	Check List	Solutions
No images on the screen. I cannot turn on the monitor.	Is the power cord connected properly?	Check the power cord connection and supply.
	Can you see "**No Connection, Check Signal Cable**" on the screen?	**(Connected using the D-sub cable)** Check the signal cable connection. **(Connected using the DVI cable)** If you still see an (error) message on the screen when the monitor is connected properly, check to see if the monitor status is set to analogue. Press Source button to have the monitor double-check the input signal source.
	If the power is on, reboot the computer to see the initial screen (the login screen), which can be seen.	If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows ME/2000/XP) and then change the frequency of the video card. (Refer to the Preset Display Modes) Note: If the initial screen (the login screen) does not appear, contact a service center or your dealer.
	Can you see "**Video mode not supported**" on the screen?	You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can properly handle. Adjust the maximum resolution and frequency that the monitor can properly handle.
	There is no image on the screen. Is the power indicator on the monitor blinking at 1 second intervals?	The monitor is in PowerSaver mode. Press a key on the keyboard or move the mouse to activate the monitor and restore the image on the screen. If there is still no image, press the 'Source' button. Then press any key on the keyboard or move the mouse again to activate the monitor and restore the image on the screen.
	Connected using the DVI cable?	You may get a blank screen if you boot the system before you connect the DVI cable, or disconnect and then reconnect the DVI cable while the system is running as certain types of graphic cards do not send out video signals. Connect the DVI cable and then reboot the system.
I cannot see the On Screen Display.	Have you locked the **On Screen Display (OSD)** Menu to prevent	Unlock the OSD by pressing the MENU button for at least 5 seconds.

Troubleshooting

Check List

	changes?	
The screen shows strange colors or just black and white.	Is the screen displaying only one color as if looking at the screen through a cellophane paper?	Check the signal cable connection. Make sure the video card is fully inserted in it's slot.
	Have the screen colors become strange after running a program or due to a crash between applications?	Reboot the computer.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
The screen suddenly has become unbalanced.	Have you changed the video card or the driver?	Adjust screen image position and size using the OSD.
	Have you adjusted the resolution or frequency to the monitor?	Adjust the resolution and frequency at the video card. (Refer to the Preset Display Modes).
	The screen can be unbalanced due to the cycle of the video card signals. Readjust Position by referring to the OSD.	
The screen is out of focus or OSD cannot be adjusted.	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card. (Refer to the Preset Display Modes).
LED is blinking but no images on the screen.	Is the frequency properly adjusted when checking the Display Timing on the menu?	Adjust the frequency properly by referring to the video card manual and the Preset Display Modes. (The maximum frequency per resolution may differ from product to product.)
There are only 16 colors shown on the screen. The screen colors have changed after changing the video card.	Have the Windows colors been set properly?	For Windows ME/2000/XP: Set the colors properly at the **Control Panel**, **Display**, **Settings**.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
There is a message that reads "Unrecognized monitor, Plug & Play (VESA DDC) monitor found".	Have you installed the monitor driver?	Install the monitor driver according to the Driver Installation Instructions.
	See the video card manual to see if the Plug & Play (VESA DDC) function can be supported.	Install the monitor driver according to the Driver Installation Instructions.

Troubleshooting

Check List

Check the following items if there is trouble with the monitor.

1. Check if the power cord and the cable are properly connected to the computer.
2. Check if the computer beeps more than 3 times when booting.
   (If it does, request an after-service for the main board of the computer.)
3. If you installed a new video card or if you assembled the PC, check if the installed the adapter (video) driver and the monitor driver.
4. Check if the scanning ratio of the video screen is set at 75Hz or 85Hz.
   (Do not exceed 60Hz when using the maximum resolution.)
5. If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "**Control Panel**, **System**, **Device Administrator**" and then reboot the computer to reinstall the adapter (video) driver.

Note: If problems repeatedly occur, contact an authorized service center.

Troubleshooting

Q&A

Question	Answer
How can I change the frequency?	Frequency can be changed by reconfiguring the video card. Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)
How can I adjust the resolution?	Windows ME/XP/2000: Set the resolution at the **Control Panel**, **Display**, **Settings**. * Contact the video card manufacturer for details.
How can I set the Power Saving function?	Windows ME/XP/2000: Set the function at BIOS-SETUP of the computer or the screen saver. (Refer to Windows/Computer Manual).
How can I clean the outer case/LCD Panel?	Disconnect the power cord and then clean the monitor with a soft cloth, using either a cleaning solution or plain water. Do not leave any remains of the detergent nor scratch the case. Do not allow any water to go inside the monitor.

Troubleshooting

Self-Test Feature Check

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

Self-Test Feature Check

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.

.

If the monitor is functioning properly, you will see a box with a border and text inside as shown in the following illustration:
The three boxes inside the border are red, green and blue.

Failure of any of the boxes to appear indicates a problem with your monitor.
This box also appears during normal operation if the video cable becomes disconnected or damaged.

4. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

   If your monitor screen remains blank after using the previous procedure,
   check your video controller and computer system; your monitor is functioning properly.

Troubleshooting

Self-Test Feature Check

Werning Messages

If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator LED is still on. The message may indicate that the monitor is out of scan range or that you need to check the signal cable.

Environment

The location and the position of the monitor may influence the quality and other features of the monitor.

1. If there are any woofer speakers near the monitor, unplug and relocate the woofer to another room.
2. Remove all electronic devices such as radios, fans, clocks and telephones that are within 3 feet (one meter) of the monitor.

Useful Tips

- A monitor recreates visual signals received from the PC. Therefore, if there is trouble with the PC or the video card, this can cause the monitor to become blank, have poor coloring, noise, Video mode not supported, etc. In this case, first check the source of the problem, and then contact a service center or your dealer.

- **Judging the monitor's working condition**
  If there is no image on the screen or an "Video mode not supported" message comes up, disconnect the cable from the computer while the monitor is still powered on.
  - If there is a message coming up on the screen or if the screen goes white, this means the monitor is in working condition.
  - In this case, check the computer for trouble.

Specifications

General (SyncMaster 213T)

General	
Model Name	SyncMaster 213T
LCD Panel	
Size	21.3 inch diagonal
Display area	432(H) x 324(V)
Pixel Pitch	0.27mm(H) x 0.27mm(V)
Type	a-si TFT active matrix
Viewing Angle	170 / 170 (H / V)
Synchronization	
Horizontal	30 ~ 81 kHz
Vertical	56 ~ 75 Hz
Display Color	
16,777,216 Colors	
Resolution	
Optimum resolution	1600 x 1200@60Hz
Maximum resolution	1600 x 1200@60Hz
Input Signal, Terminated	
RGB Analog , DVI Compliant Digital RGB. Composite Sync,SOG, 0.7Vp-p Positive at 75 ohms Separate H/V sync,TTL level positive or negative	
Maximum Pixel Clock	
162 MHz	
Power Supply	
AC 90 ~ 264 VAC, 60/50 Hz ± 3Hz	
Signal Cable	
15pin-to-15pin D-sub cable, detachable DVI-D to DVI-D connector, detachable	
Power Consumption	
75W (Maximum)	
Dimensions (WxDxH)	
473.4 x 58.8 x 374.0mm(Without Stand) 473.4 x 220.3 x 458.1 mm	
Weight	
5.1kg (After installation of Stand)	
VESA Mounting Interface	
100mm x 100mm (for use with Specialty(Arm) Mounting hardware.)	

Specifications

General (SyncMaster 213T)

Environmental considerations	
Operating	Temperature: 50°F ~ 104°F(10°C ~ 40°C) Humidity: 10% ~ 80%, non-condensing
Storage	Temperature: -4°F ~113°F (-20°C ~ 45°C) Humidity: 5% ~ 95%, non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. Interaction of the monitor and computer systems will provide the best operating conditions and monitor settings. In most cases, monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 99.999% above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

- For example, the number of TFT LCD pixels that is contained in this product are 5,760,000.

Note: Design and specifications are subject to change without prior notice.

Specifications

PowerSaver (SyncMaster 213T)

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you move the computer's mouse or press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPMS compliant video card installed in your computer. Use a software utility installed on your computer to set up this feature.

State	Normal Operation	Power saving mode EPA/ENERGY 2000	Machanical Power Switch off
Power Indicator	Green	Green, Blinking	Black
Power Consumption	MAX. 75W	Less than 2W	Less than 0W

This monitor is EPA ENERGY STAR® compliant and ENERGY2000 compliant when used with a computer equipped with VESA DPMS functionality.
As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Specifications

Preset Timing Modes (SyncMaster 213T)

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Table 1. Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
MAC, 640 x 480	35.000	66.667	30.240	+/-
MAC, 832 x 624	49.726	74.551	57.284	+/-
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+,-/+,-
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1280 x 1024	63.981	60.020	108.00	-/-
VESA, 1280 x 1024	79.976	75.025	135.00	-/-
VESA, 1600 x 1200	75.000	60.000	162.00	+/+

Horizontal Frequency
The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle and the inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

Vertical Frequency
Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called Vertical Frequency or Refresh Rate. Unit: Hz

Information

Service

- **U.S.A. :**
  Samsung Computer Products Customer Service
  400 Valley Road, Suite 201, Mt. Arlington, NJ 07856
  Tel. : (973)601-6000, 1-800-SAMSUNG
  (1-800-726-7864)
  Fax. : (973)601-6001
  http://samsungusa.com/monitor/

- **CANADA :**
  Samsung Electronics Canada Inc.
  7037 Financial Drive
  Mississauga, Ontario L5N 6R3
  Tel. : 1-800-SAMSUNG (1-800-726-7864)
  Fax. : (905) 542-1199
  http://www.samsung.ca/

- **PANAMA :**
  Samsung Electronics Latinoamerica(Z.L.) S.A.
  Calle 50 Edificio Plaza Credicorp, Planta Baja
  Panama
  Tel. : (507) 210-1122, 210-1133
  Tel : 800-3278(FAST)
  http://www.samsung-latin.com/

- **GERMANY :**
  TELEPLAN Rhein-Main GmbH
  Feldstr. 16
  64331 Weiterstadt
  T. 06151/957-1306
  F. 06151/957-1732
  * EURO 0,12/Min.
  http://www.samsung.de/

- **ITALY :**
  Samsung Electronics Italia S.p.a.
  Via C. Donat Cattin, 5
  20063 Cernusco s/Naviglio (MI)
  Servizio Clienti: 199.153.153
  http://www.samsung-italia.com/

- **United Kingdom :**
  Samsung Electronics (UK) Ltd.
  Samsung House, 225 Hook Rise South
  Surbiton, Surrey KT6 7LD
  Tel. : (0208) 391 0168
  Fax. : (0208) 397 9949
  < European Service Center & National Service >
  Stafford Park 12 Telford, Shropshire, TF3 3BJ
  Tel. : (0870) 242 0303
  Fax. : (01952) 292 033
  http://samsungservice.co.uk/

- **BRAZIL :**
  Samsung Eletronica da Amazonia Ltda.
  R. Prof. Manoelito de Ornellas, 303, Terro B
  Chacara Sto. Antonio, CEP : 04719-040
  Sao Paulo, SP
  SAC : 0800 124 421
  http://www.samsung.com.br/

- **COLOMBIA :**
  Samsung Electronics Colombia
  Cra 9 No 99A-02 Of. 106
  Bogota, Colombia
  Tel.: 9-800-112-112
  Fax: (571) 618 - 2068
  http://www.samsung-latin.com/
  e-mail : soporte@samsung-latin.com

- **PERU :**
  Servicio Integral Samsung
  Av.Argentina 1790 Lima1. Peru
  Tel: 51-1-336-8686
  Fax: 51-1-336-8551
  http://www.samsungperu.com/

- **AUSTRALIA :**
  Samsung Electronics Australia Pty Ltd.
  Customer Response Centre
  7 Parkview Drive, Homebush Bay NSW 2127
  Tel : 1300 362 603
  http://www.samsung.com.au/

- **ESPAÑA :**
  Samsung Electronics Comercial Iberica, S.A.
  Ciencies, 55-65 (Poligono Pedrosa) 08908
  Hospitalet de Llobregat (Barcelona)
  Tel. : (93) 261 67 00
  Fax. : (93) 261 67 50
  http://samsung.es/

- **THAILAND :**
  HAI SAMSUNG SERVICE CENTER
  MPA COMPLEX BUILDING,1st-2nd Floor
  175 SOI SUEKSA VIDHAYA SATHON SOI 12
  SILOM ROAD ,SILOM,BANGRAK
  BANGKOK 10500
  TEL : 0-2635-2567
  FAX : 0-2635-2556

Information

Service

- **SOUTH AFRICA :**
  Samsung Electronics,5 Libertas Road, Somerset Office Park,
  Bryanston Ext 16. Po Box 70006, Bryanston,2021,
  South Africa
  Tel : 0027-11-549-1621
  Fax : 0027-11-549-1629
  http://www.samsung.co.za/
- **SWEDEN/DENMARK/NORWAY/FINLAND :**
  Samsung Electronics AB
  Box 713
  S-194 27 UPPLANDS VÄSBY
  SVERIGE
  Besöksadress : Johanneslundsvägen 4
  Samsung support Sverige: 020-46 46 46
  Samsung support Danmark : 8088-4646
  Samsung support Norge: 8001-1800
  Samsung support Finland: 0800-118001
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  SAMSUNG ELECTRONICS FRANCE Service
  Paris Nord 2
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  BP 50116 Villepinte
  95950 Roissy CDG Cedex
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  Fax : 01 48 63 06 38
  http://www.samsungservices.com/
- **MEXICO :**
  Samsung Electronics Mexico S.A. de C.V.
  Saturno 44 Col. Nueva Industrial Vallejo
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  Mexico D.F.
  Tel. 01 57 47 51 00
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  http://www.samsung.com.mx/
- **UKRAINE :**
  SAMSUNG ELECTRONICS REPRESENTATIVE OFFICE IN UKRAINE
  4 Glybochitska str.
  Kiev, Ukraine
  Tel. 8-044-4906878
  Fax 8-044-4906887
  Toll-free 8-800-502-0000
  http://www.samsung.com.ua/
- **HUNGARY :**
  Samsung Electronics Magyar Rt.
  1039, Budapest, Lehel u. 15-17.
  Tel: 36 1 453 1100
  Fax: 36 1 453 1101
  http://www.samsung.hu/
- **PORTUGAL :**
  SAMSUNG ELECTRONICA PORTUGUESA S.A.
  Rua Mário Dioniso, N º 2 - 1º Drt. 2795-140 LINDA-A-VELHA
  Tel. 214 148 114/100 Fax. 214 148 133/128
  Free Line 800 220 120
  http://www.samsung.pt/
- **CHILE :**
  SONDA S.A.
  Teatinos 550, Santiago Centro, Santiago, Chile
  Fono: 56-2-5605000 Fax: 56-2-5605353
  56-2-800200211
  http://www.sonda.com/
  http://www.samsung.cl/
- **NETHERLANDS/BELGIUM/LUXEMBOURG :**
  Samsung Electronics Benelux B. V.
  Fleminglaan 12 2289 CP Rijiswijk, NEDERLANDS
  Service and informatielijn ;
  Belgium :0800-95214, http://www.samsung.be/
  Netherlands : 0800-2295214,
  http://www.samsung.nl/

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RFC: SEM950215S98

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7 SOON-WHA-DONG CHUNG-KU,
C.P.O BOX 2775, 1144 SEOUL, KOREA

Information

Terms

- **Dot Pitch**

  The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm

- **Vertical Frequency**

  The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called Vertical Frequency or Refresh Rate. Unit: Hz

  Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz. In this case, flickering of the screen can be detected. To avoid this problem, there is a Flicker-free Mode using a vertical frequency over 70 Hz.

- **Horizontal Frequency**

  The time to scan one line connecting the right edge to the left edge of the screen horizontally is called Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

- **Interlace and Non-Interlace Methods**

  Showing the horizontal lines of the screen from the top to the bottom in order is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

- **Plug & Play**

  This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

- **Resolution**

  The number of horizontal and vertical dots used to compose the screen image is called 'resolution'. This number shows the accuracy of the display. High resolution is good for performing multiple tasks as more image information can be shown on the screen.

  Example: If the resolution is 1024 X 768, this means the screen is composed of 1024 horizontal dots (horizontal resolution) and 768 vertical lines (vertical resolution).

Information

Regulatory

FCC Information

User Instructions
The Federal Communications Commission Radio Frequency Interference Statement includes the following warning:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

User Information
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4.

The party responsible for product compliance:
SAMSUNG ELECTRONICS CO., LTD
America QA Lab of Samsung
3351 Michelson Drive,
Suite #290, Irvine, CA92612 USA
Tel) 949-975-7310
Fax) 949-922-8301

Warning
User must use shielded signal interface cables to maintain FCC compliance for the product.

Provided with this monitor is a detachable power supply cord with IEC320 style terminations. It may be suitable for connection to any UL Listed personal computer with similar configuration. Before making the connection, make sure the voltage rating of the computer convenience outlet is the same as the monitor and that the ampere rating of the computer convenience outlet is equal to or exceeds the monitor voltage rating.
For 120 Volt applications, use only UL Listed detachable power cord with NEMA configuration 5-15P type (parallel blades) plug cap. For 240 Volt applications use only UL Listed Detachable power supply cord with NEMA configuration 6-15P type (tandem blades) plug cap.

VCCI

This is a Class B product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

Information

Regulatory

- **IC Compliance Notice**

  This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations of ICES-003.

  Cet appareil Numérique de classe Brespecte toutes les exigences du Règlemont NMB-03 sur les équipements produisant des interférences au Canada.

- **MPR II Compliance**

  This monitor complies with SWEDAC(MPR II) recommendations for reduced electric and magnetic fields.

- **European Notice(Europe Only)**

  Products with the CE marking comply with the EMC Directive(89/336/EEC), (92/31/EEC), (93/68/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
  Compliance with these directives implies conformity to the following European Norms:

  - EN55022:1998+A1:2000 - Radio Frequency Interference
  - EN55024:1998 - Electromagnetic Immunity of Information Technology Equipment
  - EN61000-3-2:1995+A1/A2:1998 - Power Line Harmonics
  - EN61000-3-3:1995 - Voltage Fluctuations

- **PCT Notice**

Information

Regulatory

- **TCO'95-Ecological requirements for personal computers (TCO applied model only)**

AB general requirements

AB2 Written Eco-document acompanying the products
Congratulations! You have just purchased a TCO'95 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and to the further development of environmentally-adapted electronic products.

Why do we have environmentally-labelled monitors?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment.The main problem as far as monitors and other electronic equipment are concerned is that environmentally harmful substances are used both in the products and during their manufacture. Since it has not been possible so far for the majority of electronic equipment to be recycled in a satisfactory way, most of these potentially damaging substances sooner or later enter Nature.

There are also other characteristics of a monitor, such as energy consumption levels, that are important from both the working and natural environment viewpoints. Since all types of conventional electricity generation have a negative effect on the environment (acidic and climate-influencing emissions, radioactive waste, etc.) it is vital to conserve energy. Electronic equipment in offices consumes an enormous amount of energy, since it is often routinely left running continuously.

What does labelling involve?

This product meets the requirements for the TCO'95 scheme, which provides for international environmental labelling of monitors. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industrial and Technical Development in Sweden).

The requirements cover a wide range of issues: environment, ergonomics, usability, emission of electrical and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands concern among other things restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons), and chlorinated solvents. The product must be prepared for recycling and the manufacturer is obliged to have an environmental plan, which must be adhered to in each country where the company conducts its operations policy. The energy requirements include a demand that the monitor after a certain period of inactivity shall reduce its power consumption to a lower level, in one or more stages. The length of time to reactivate the monitor shall be reasonable for the user. Labelled products must meet strict environmental demands, for example in respect of the reduction of electric and magnetic fields, along with physical and visual ergonomics and good usability.

Information

Regulatory

What does labelling involve?(continue)

TCO Development Unit 1996-11-29
On the page this folder you will find a brief summary of the environmental requirements met by this product. The complere environmental criteria document may be ordered from:
TCO Development Unit
S-11494 Stockholm
Sweden
Fax: +46 8 782 92 07
E-mail (Internet): development@tco.se
Current information regarding TCO'95-approved and labelled products may also be obtained via the Internet, using the address:
http://www.tco-info.com/
TCO'95 is a co-operative project between(3 logos)

Environmental Requirements

Brominated flame retardants are present in printed circuit boards, cables, wires, casings and housings. In turn, they delay the spread of fire. Up to thirty percent of the plastic in a computer casing can consist of flame retardant substances. These are related to another group of environmental toxins, PCBs, which are suspected to give rise to similar harm, including reproductive damage in fish eating birds and mammals, due to the bioaccumulative processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur. TCO'95 demand requires that plastic components weighing more than 25 grams must not contain organically bound chlorine and bromine.

Lead

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning. TCO'95 requirement Permits the inclusion of lead since no replacement has yet been developed.

Cadmium

Cadmium is present in rechargeable batteries and in the colour generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of cadmium. The colour-generating layers of display screens must not contain any cadmium.

Mercury

Mercury is sometimes found in batteries, relays and switches. Mercury damages the nervous system and is toxic in high doses. TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of mercury. It also demands that no mercury is present in any of the electrical or electronics components concerned with the display unit.

CFCs (freons)

CFCs (freons) are sometimes used for washing printed circuit boards and in the manufacturing of expanded foam for packaging. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on Earth of ultraviolet light with consequent increased risks of skin cancer (malignant melanoma).

- The relevant TCO'95 requirement: Neither CFCs nor HCFCs may be used during the manufacturing of the product or its packaging.

Information

Regulatory

- **TCO'99-Ecological requirements for personal computers (TCO applied model only)**

Congratulations!

You have just purchased a TCO'99 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

This product meets the requirements for the TCO'99 scheme which provides for an international environmental and quality labelling labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO(The Swedish Confederation of Professional Employees),
Svenska Naturskyddsforeningen(The Swedish Society for Nature Conservation),
Statens Energimyndighet(The Swedish National Energy Administration) and SEMKO AB.

The requirements cover a wide range of issuse: environment, ergonomics, usability, reduction of electric and magnetic fields, energy consumption and electrical safety.

Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, most of these potentially damaging substances sooner or later enter nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy.
Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

What does labelling involve?

The environmental demands has been developed by Svenska Naturskyddsforeningen
(The Swedish Society for Nature Conservation). These demands impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs(freons)and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental policy which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages.
The length of time to reactivate the computer shall be reasonable for the user.

Below you will find a brief summary of the environmental requirements met by this product.
The complete environmental criteria document may be ordered from:

Information

Regulatory

TCO Development
SE-114 94 Stockholm, Sweden
Fax: +46 8 782 92 07
Email (Internet): development@tco.se

Current information regarding TCO'99 approved and labelled products may also be obtained via the Internet, using the address: http://www.tco-info.com/

Environmental requirements

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative* processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

Cadmium**

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit. There is however one exception. Mercury is, for the time being, permitted in the back light system of flat panel monitors as today there is no commercially available alternative. TCO aims on removing this exception when a Mercury free alternative is available.

CFCs (freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product. CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

Lead**

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning. The relevant TCO'99 requirement permits the inclusion of lead since no replacement has yet been developed.

Information

Regulatory

Congratulations!

The display you have just purchased carries the TCO'03 Displays label. This means that your display is designed, manufactured and tested according to some of the strictest quality and environmental requirements in the world. This makes for a high performance product, designed with the user in focus that also minimizes the impact on our natural environment.

Some of the features of the TCO'03 Display requirements:

Ergonomics

- Good visual ergonomics and image quality in order to improve the working environment for the user and to reduce sight and strain problems. Important parameters are luminance, contrast, resolution, reflectance, colour rendition and image stability.

Energy

- Energy-saving mode after a certain time – beneficial both for the user and the environment
- Electrical safety

Emissions

- Electromagnetic fields
- Noise emissions

Ecology

- The product must be prepared for recycling and the manufacturer must have a certified environmental management system such as EMAS or ISO 14 000
- Restrictions on
  - chlorinated and brominated flame retardants and polymers
  - heavy metals such as cadmium, mercury and lead.

The requirements included in this label have been developed by TCO Development in co-operation with scientists, experts, users as well as manufacturers all over the world. Since the end of the 1980s TCO has been involved in influencing the development of IT equipment in a more user-friendly direction. Our labelling system started with displays in 1992 and is now requested by users and IT-manufacturers all over the world.

For more information, please visit
www.tcodevelopment.com

Information

Regulatory

- **Medical Requirement**

Classifications:
In accordance with UL 2601-1/IEC 60601-1, the product is cssified as Continuous duty Class I equipment, which is not protected against ingress of liquids. The product is not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.

EMC
This equipment has been tested and found to comply with the limits for medical devices to the IEC 601-1-2:1994. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving device.
-Increase the separation between the equipment.
-Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
-Consult the manufacturer or field service technician for help.

Video In / RS 232 / Video Out
Accessories equipment connected to the analog and digital interfaces must be certified to the respective IEC standards (i.e. IEC 950 for data processing equipment and IEC 601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard IEC 601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 601-1-1. If in doubt, consult the technical services department or your local representative.

Transport and Storage Limitations:
Temperature Range of -40°C to +70°C
Relative Humidity of 10 -95%, non-condensing

* Bio-accumulative is defined as substances which accumulate within living organisms.
** Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.

Information

Natural Color

- **Natural Color Software Program**

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor.
The Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI). This system is available only for Samsung monitors and makes the color of the images on the monitor the same as the printed or scanned images.
For more information, refer to Help (F1) in the software program.

How to install the Natural Color software

Insert the CD included with the Samsung monitor into the CD-ROM Drive. Then, the initial screen of the program installation will be executed. Click Natural Color on the initial screen to install the Natural Color software. To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the [Start] button of Windows and then select [Execute].
Enter D:\color\eng\setup.exe and then press the key.
(If the drive where the CD is inserted is not D:\, enter the applicable drive.)

How to delete the Natural Color software program

Select [Setting]/[Control Panel] on the [Start] menu and then double-click [Add/Delete a program].
Select Natural Color from the list and then click the [Add/Delete] button.

Information

For Better Display

1. Adjust computer resolution and screen injection rate (refresh rate) in control panel of computer as described below to enjoy the best quality of picture. You can have an uneven quality of picture in the screen if the best quality of picture is not provided in TFT-LCD.

    - Resolution: 1600 x 1200
    - Vertical frequency (refresh rate): 60 Hz

2. TFT LCD panel manufactured by using advanced semiconductor technology with precision of 99.999% above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

    - For example, the number of TFT LCD pixels that is contained in this product are 5,760,000.

3. When you clean the monitor and the panel outside, please apply the recommended small amount of cleaner by using soft and dry cloth and polish it. Let LCD area not to be forced but to be scrubbed out softly. If excessive force is applied, you can have a stain on it.

4. If you are not satisfied with the quality of picture, you can get better quality of picture by executing "auto adjustment function" in display screen that is appeared as window termination button is pressed. If there's still noise after automatic adjustment, use FINE/COARSE adjustment function.

5. If you view a fixed screen for an extended period of time, residual image or blurriness may appear.
   Change the mode to energy save or set a screensaver to moving picture when you need to be away from the monitor for an extended period of time.

Information

Authority

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